

WHAT IS CLAIMED IS:

1. A method for performing a handoff on voice and packet data in a mobile communication system including a first base station communicating voice and packet data with a mobile station, a mobile switching center connected to the first base station, and a second base station adjacent to the first base station, the method comprising the steps of:

sending a handoff required message from the first base station to the mobile switching center, the handoff required message including a service type identifier indicating a concurrent service of the voice and packet data and a service configuration record;

sending from the mobile switching center the service type identifier and the service configuration record of the received handoff required message to the second base station;

determining in the second base station whether it is possible to communicate with the mobile station using a radio resource specified in the service type identifier and the service configuration record, and sending, when it is not possible to communicate with the mobile station, to the mobile switching center a new service type identifier and a new service configuration record indicating that communicating with one of the voice and packet data with the mobile station is possible;

sending from the mobile switching center the new service type identifier and the new service configuration record to the first base station and sending from the first base station the new service type identifier and the new service configuration record to the mobile station; and

forming in the mobile station a communication link to the second base station according to the new service type identifier and the new service configuration record.

2. The method as claimed in claim 1, wherein the service configuration record comprises resource information including a radio channel.

3. The method as claimed in claim 1, wherein the service configuration record comprises resource information including a data rate.

4. A method for performing a handoff on a concurrent service while a mobile station is concurrently provided with a first service and a second service through a first base station, in a mobile communication system including the mobile station, the first base station connected to the mobile station, a mobile switching center connected to the first base station, and a second base station adjacent to the first base station, the method comprising the steps of:

sending a handoff required message from the first base station to the mobile switching center according to signal strength reported from the mobile station, the signal strength exceeding predetermined strength of a pilot signal from the second base station, the handoff required message including service type identifiers indicating service types and resource information indicating radio resources assigned for the respective services;

receiving the handoff required message at the mobile switching center, and sending to the second base station a handoff request message including the service type identifiers and the resource information;

determining in the second base station whether it is possible to assign radio resources for both the first service and the second service, based on the resource information received from the mobile switching center;

sending a first handoff request acknowledge message with the resource information removed from the second base station to the mobile switching center, when it is possible to assign the radio resources for both the first service and the second service;

assigning in the second base station a radio resource for any one of the first

service and the second service, and sending a second handoff request acknowledge message with the assigned radio resource to the mobile switching center, when it is possible to assign the radio resources one of the first service and the second service;

5 sending the first handoff request acknowledge message from the mobile switching center to the mobile station and forming in the mobile station a communication link to the second base station according to the first handoff request acknowledge message when it is possible to assign the radio resources for both the first service and the second service; and

10 sending the second handoff request acknowledge message from the mobile switching center to the mobile station and forming in the mobile station a communication link to the second base station according to the second handoff request acknowledge message when it is not possible to assign the radio resources for both the first and second service.

15 5. The method as claimed in claim 4, further comprising the step of sending a handoff failure message indicating non-assignability of the radio resource to the mobile switching center, when it is not possible to assign the radio resources for both the first service and the second service.

20 6. The method as claimed in claim 4, wherein the service configuration record comprises resource information including a radio channel.

7. The method as claimed in claim 4, wherein the service configuration record comprises resource information including a data rate.